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NOTE ON THE REPUTED POISONOUS PROPERTIES OF *COPRINUS COMATUS*

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In *MYCOLOGIA* for March, 1911, Professor Dearness alludes to some recent cases of poisoning attributed by Doctor Cleghorn to *Coprinus comatus*. As this species is a favorite with mushroom-eaters, any reflection upon its character is worthy of consideration. Professor Dearness, realizing this, suggests the following explanation:

"In the process of disintegration, noxious products undoubtedly do develop from innocent compounds, but, further, it is quite conceivable that the strength of poisonous principles may vary in the same species of mushroom or that even some alkaloid may be normally present in one set of conditions and be absent in another. On what other theory can one explain the experience reported by Dr. Cleghorn in the October number of *Good Housekeeping* (p. 442)?"

Could not a poisonous species somehow have got into the broth?

Four reasons present themselves against the view that the noted edible *Coprinus* could have caused the trouble. (1) Some mycophagists claim that deliquescence, instead of rendering it poisonous, heightens the flavor. (2) It is not apt to be eaten in the decaying condition, for it becomes repulsive to the average person by its deliquescence alone: no person with his olfactories in normal order will eat the decayed or decaying plant. (3) Except by mistake it has never before been reported as poisonous.* (4) Idiosyncrasy, in Dr. Cleghorn's cases, is out of the question, as too many individuals were similarly affected.

But if another species may be held responsible, then which?

* According to J. A. Palmer ("About Mushrooms," Boston, 1894, p. 11), Berkeley and Curtis are said to have considered it poisonous, but Berkeley ("Outlines") states it to be edible, and Curtis ("Catalogue of N. Carolina Fungi") does likewise. Indeed, its reputation as an edible fungus may be traced back to Pliny.

Coprinus comatus is not the only lawn-inhabiting agaric. There are many others, among them one with a reputation for producing just such symptoms as those described by Dr. Cleghorn. Its name is *Panaeolus campanulatus*. It is quite possible that specimens of this species were gathered and eaten along with the Shaggy Mane.

Let us compare the symptoms of Dr. Cleghorn's cases with those of a case† reported to have been caused by the *Panaeolus*. Dr. Cleghorn's account, summarized, reads as follows:

The plants eaten by the patients were found growing on a lawn. Specimens gathered there on a previous occasion had been enjoyed without deleterious effects. The last time, however, ten persons in four different families were affected as if by a poison. The effects were produced "even while the dish of stewed mushrooms was still being passed." A few individuals showed the effects later—after several hours. The symptoms were not unlike those of alcohol-intoxication. The Doctor records failure of muscular coördination, difficulty in standing, inability to walk, drowsiness, lack of control of the emotions, bloodshot eyes, enlarged pupils, and incoherent or at least inappropriate speech. Prostration was absent. Action of heart and lungs strong and regular. The vision of one patient was affected in such a way that the furniture seemed bent, pliable, and in motion. Another had a temporary, but complete, paralysis of the left arm.

In Dr. Glen's case of *Panaeolus*-poisoning, we learn that his patient, a poor man of Knightsbridge, England, collected one morning some fungi which he cooked and ate for breakfast. Eight or ten minutes after the commencement of the meal he was "suddenly seized with dimness or mist before his eyes, lightness and giddiness of his head, with a general trembling and sudden loss of power,—so much so, that he nearly fell off the chair; to this succeeded loss of recollection; he forgot where he was, and all the circumstances of his case. This temporary deprivation soon went off, and he so far rallied as to be able, though with difficulty, to get up, with the intention of coming here for assistance, a distance of about five hundred yards: he had not proceeded

† Glen, G., "A Case proving the Deleterious Effects of the *Agaricus Campanulatus*, which was mistaken for the *Agaricus Campestris*, or Champignon." London Med. & Phys. Jour. 36: 451-453. 1816.

more than half way when his memory again failed him: he lost the road, although previously perfectly acquainted with it, but was fortunately met by a friend, who with difficulty learned his state and brought him to me. . . . His countenance betrayed great anxiety; he could scarcely stand, but reeled about somewhat like a drunken man; he spoke with hesitation and reluctance; he complained of no pain except some transient twitches in his legs; he had no nausea; he suffered much from giddiness, and was greatly inclined to sleep; his pulse was slow and feeble. . . . Distressing pains in the calves of his legs," and weakness and languor the next day were also noted. An emetic was given, after which the man rapidly recovered.

Specimens of the plant responsible for this case were seen by Dr. Glen and his teacher, William Salisbury, and identified as *Agaricus campanulatus* L. (= *Panaeolus campanulatus* [L.] Fr.). Glen refers to a similar case reported by Salisbury in *The Gentleman's Magazine* for September, 1815. This reference was not looked up.

Panaeolus campanulatus, it is true, is somewhat difficult to determine, because of its great variability and its many close relatives; nevertheless, it cannot be doubted that Glen had to do with a *Panaeolus* and not with a *Coprinus*, and that is sufficient for our purposes. That the active poisonous principle was the same in both cases seems equally certain, if we may judge from symptoms; and the statements in paragraph four of this note may also be safely adduced in our attempt to clear *Coprinus comatus* of the imputation of being poisonous. Experiments with these common plants ought to settle the question beyond peradventure.

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